

Note: The draft document below was prepared by WDFW Fish Program staff, based on an initial draft from the Commission, presented at the Commission's October 27-29, 2022 meeting in Colville, Washington. As per instructions from the Commission, staff reorganized and simplified the initial draft, without reducing scope of the workshop.

Staff Draft – November 14, 2022

Terms of Reference

Washington Fish and Wildlife Commission Workshop
on
Changes in Salmon Hatchery Production Levels Associated with
Prey Enhancement for Southern Resident Killer Whales

Purpose

The purpose of the workshop is to provide information to Commissioners about factual information and analysis associated with changes in the number of salmon produced from hatcheries that can be prey for Southern Resident Killer Whales (SRKW), such as the Commission's 2018 initiative to increase chinook salmon hatchery production to increase prey availability for SRKW.

Informational Briefing Topics

The Workshop will be organized as four separate X-hour workshops, each covering a specific set of briefing topics:

Workshop #1: Overview of the Washington State Hatchery System and Production. *This workshop will provide a brief history of WDFW hatchery system, with a focus on hatchery management and production. The risks and benefits of hatchery production will be introduced at this workshop, but details will be the focus of Workshop #2. Specific topics/questions covered in Workshop #1 will include:*

- Numbers of salmon released from Puget Sound, Washington Coast and Columbia River basin hatcheries and SRKW population size, 1976 - 2021, including each salmon species and chinook salmon stocks that have been identified as primary prey sources
- How has hatchery production of Chinook salmon and other salmon changed since Governor Inslee's Executive Order 18-02? As of December 31, 2022, how much will hatchery production have increased by 2022 toward the goal of 50 million additional Chinook salmon smolts as described in the Commission's 2018 Prey Initiative white paper *Proposal for Enhanced Hatchery Production of Chinook Salmon to Increase Prey Abundance for Southern Resident Killer Whales*? Report production increases separately for Puget Sound and Columbia River areas.

- What is the basis for the Commission’s goal of an additional 50 million Chinook smolts? What are current plans, including capital construction budget planning, to meet that goal?
- How are the short- and long-term effects of hatchery production being monitored and assessed on wild salmon stocks and other potentially affected ecosystem components? In what areas and for which species does such increased production pose significant risks and what is being done to avoid those risks?
- What additional hatchery production has been aimed at other geographic areas proposed in the Commission SRKW prey initiative, beyond Puget Sound dead-end bays and selective Columbia River locations? For such production, who was the sponsoring entity, what was the source of funding, where did releases occur and what was the justification for releases in those areas?
- What are the respective roles of the Pacific Fishery Management Council, the Pacific Salmon Treaty, and the Governor’s Orca Prey Initiative in salmon management and the current hatchery expansion plans?

Workshop #2: Risks and benefits of hatchery production. *This workshop will provide for a detailed discussion of hatchery production risks and benefits as they relate to the SRKW population dynamics. Specific topics/questions covered in Workshop #2 will include:*

- Major reviews (e.g., National Academies of Science, Hatchery Scientific Review Group, previous SEPA analyses) relevant to the potential risks and benefits of increased hatchery production on endangered and threatened wild salmon stocks and SRKWs.
- What risks does the Commission’s 2018 Prey Initiative identify and what protections does it propose or provide from adverse effects on wild Chinook salmon populations?
- What other reviews have been done on the proposed increase in hatchery production? What did they find?
- What consultation has occurred between marine mammal and fish experts to assess the potential risks and benefits of increased hatchery production (spatial/temporal overlap, reduced size of hatchery-origin fish, etc).

Workshop #3: SRKW management and population dynamics. *This workshop will focus on the content of the Task Force’s finding, Governor Inslee’s executive order, and the Commission’s prey initiative. Also included will be SRKW population dynamics – causes for changes in status of SRKW abundance and survival. Some discussion here may include ecological interactions between SRKWs and salmonids, but this will be covered in more detail in Workshop #4. Specific topics/questions covered in Workshop #3 will include:*

- Governor Inslee’s Executive Order 18-02, *Southern Resident Killer Whale Recovery and Task Force*, and its subsequent Task Force process and recommendations.
 - Did Governor Inslee’s Executive Order 18-02, task the Department to look into increasing chinook salmon hatchery production and its possible benefit to SRKW, as one of several recovery measures?

- Did the Task Force recommend additional hatchery production of chinook salmon and any other species other than Chinook salmon? What was the justification for any such recommendations?
- How/where have the Governor's or the Task Force's recommendations been evaluated to determine their potential beneficial and adverse impacts on the affected species and ecosystems?
- What are the factors affecting SRKWs and what is their relative significance?
- The Commission's 2018 *Southern Resident Orca Prey Enhancement Initiative*.
- Other SRKW prey enhancement initiatives, directives, or decisions, including any associated with Washington State legislative action and implementation of the Pacific Salmon Treaty.

Workshop #4: Ecological Interactions. *This workshop will focus on the ecological interactions of SRKW and salmonid populations, particularly the abundance trends and spatial distribution of salmonid stocks (including natural origin and hatchery origin) that are considered prey for SRKW, relative to the status and migration patterns of SRKW populations. Specific topics/questions covered in Workshop #4 will include:*

- What are SRKW foraging and migration patterns, including the species and stocks of salmon within each species, how well are they known, and how do they vary, or how have they varied, in recent years?
- To what extent do SKRWs prey on salmon species other than Chinook salmon?
- How might differences in hatchery-reared fish and wild fish affect SRKW foraging patterns and success?
- How have changes in hatchery chinook salmon production aligned with the changes in status of the SRKW population, with focus on the period of SRKW population increase from 1976 to the mid 1990's, and separately the period of SRKW decline from the mid-1990's to the present?
 - What has been the changes in adult wild chinook abundance destined for Puget Sound/Salish Sea areas, and separately for Columbia River areas, during the same two focus periods?
- How are Washington's Chinook salmon populations affected by SE Alaska fisheries?

Detailed Information and Reports.

These represent a subset of document that will be included as part of the workshop. The complete set of documents will be available by XXX, XX, 2023

1. Total salmon hatchery release data by species and year, 1974 - 2021.
2. SRKW population estimates, 1976 - 2022.
3. List of salmon species known to be prey of SRKW and estimates of the approximate hatchery: wild mix for each species group.
4. List of salmon stocks considered preferred candidates for SRKW prey supplementation.

5. Governor Inslee's Executive Order 18-02, *Southern Resident Killer Whale Recovery and Task Force*.
6. Department White Paper: *A Proposal for Enhanced Hatchery Production of Chinook Salmon to Increase Prey Abundance for Southern Resident Killer Whales*.
7. The *Southern Resident Orca Task Force Final Report and Recommendations* document.
8. The most recent NMFS Biological Opinion(s) related to SRKW, including any associated with the most recent update of the Pacific Salmon Treaty.
9. The most recent National Marine Fisheries Service presentation to the Pacific Fishery Management Council regarding SRKW geographic feeding patterns on West Coast salmon.
10. The audio/video record of the February, 2020 Hatchery Policy Review Emerging Science Report Workshop and its supporting documents.
11. The National Academies of Science 1996 review of the ecological effects of hatcheries.
12. Major relevant Hatchery Scientific Review Group reports.
13. Related SEPA analyses

Responsibilities

Department Staff

1. Assemble the information described in the Detailed Information and Reports section of this Terms of Reference (ToR) and make it available to the Commissioners and the public on the Commission website no later than two weeks advance of the workshop.
2. Prepare a reasonably short briefing highlighting the information gathered responsive to this ToR and be prepared to respond to questions at the workshop from Commissioners about the information described in this ToR.
3. Maintain a record of the workshop, including the materials, on the Commission website.

Commissioners

1. Review, edit and agree to the content of a final ToR document at their October 27-29, 2022 Commission meeting.
2. Read the posted material in advance of the workshop.
3. Participate in the workshop in a manner that contributes to a common understanding of the information and issues, so as to facilitate future policy discussions subsequent to the workshop.

Public Comment

Public comment *{will or will not}* be taken as an agenda item at the workshop.

Workshop Date and Venue

The workshop is to be held *{insert early 2023 date}* as an *{in-person meeting in Olympia, Zoom webinar, or hybrid meeting}*.